



**The Power of Global Collaboration**  
Defense | Government | Industry | Academia

# Mobile Media Learning – ARIS Project

ImplementationFest 2011 – 4 August

Andy Johnson, ADL Technical Team  
contractor with Problem Solutions, LLC



# ARIS Platform



- **A**ugmented **R**eality and **I**nteractive **S**torytelling
- 'Platform' means it has infrastructure supporting it (clients and servers) and tools to use it (ARIS editor and mobile apps)



# Augmented Reality: What it is NOT







# Augmented Reality: What it is





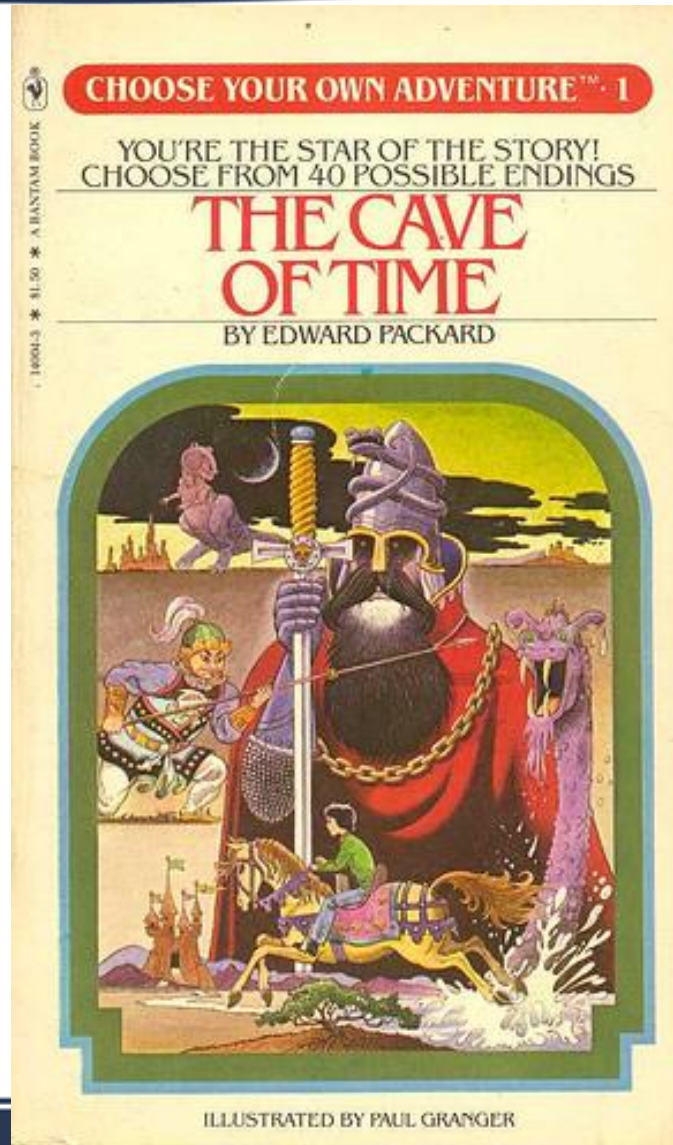
# Augmented Reality



- Past efforts in simulation and AR have produced a reality that mimics reality to a degree
- Useful for things that simulations help with – cost
- Not just augment, but improve experience by using reality



# Interactive Storytelling





# Games



- Not all games are video games!
- Many games are grounded in reality, but slightly change that reality
- Murder-mystery dinner, Fantasy Football



# Some Important Qualities of a “Good Game”



- Choice
- Narrative
- Surprise
- Grounded in Reality





# A Couple Knocks on Games



- Hard to create
- Expensive



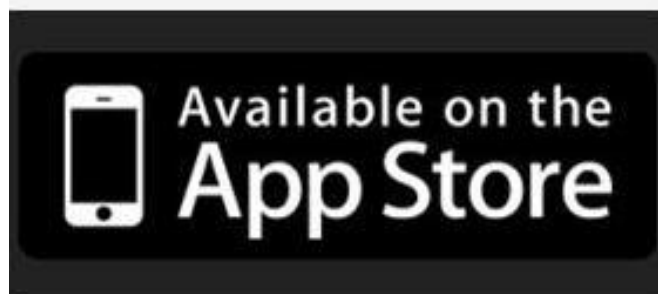
# Result



- Someone else makes YOUR game
- Stripped of context of your area of expertise
- Stripped of all the things you can't articulate in a requirements document but are still important



# An Alternative Solution





# What Does an ARIS Creation Look Like?



# Start with Reality







# Pull Out Your iPhone





# Accept Your Mission







# Check the Map





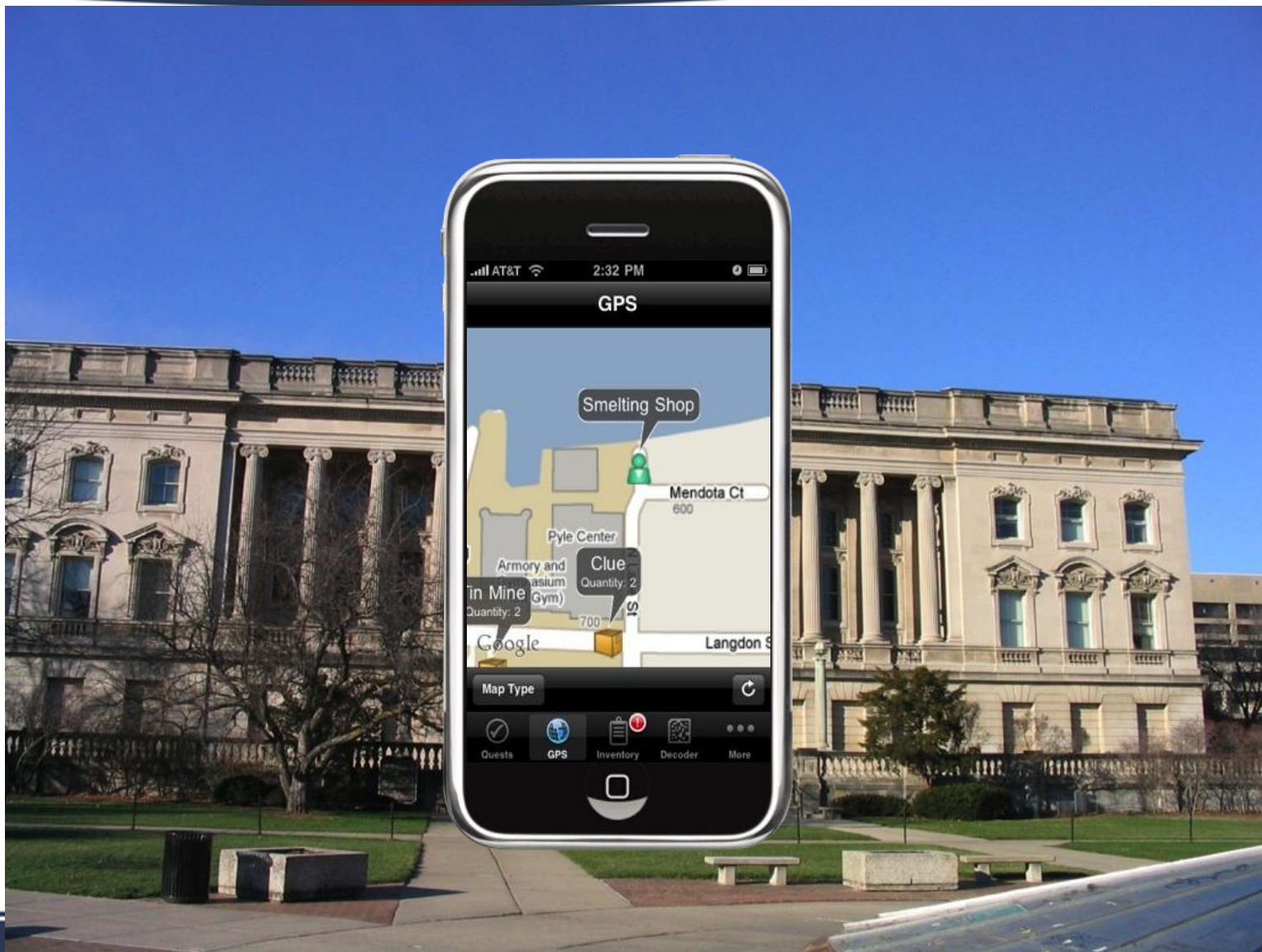
# Let's Move!







# Exploring





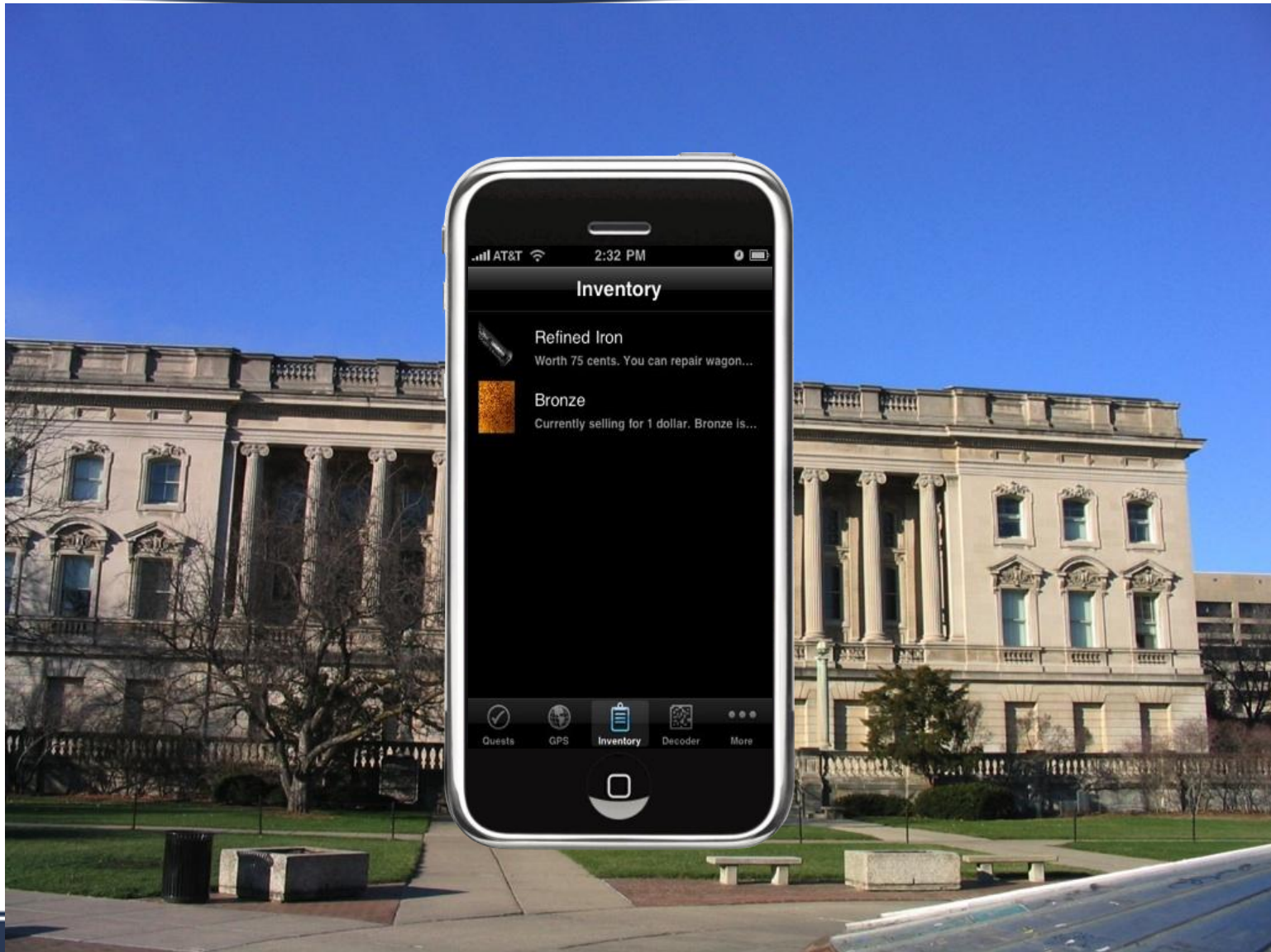


# Interacting





# Scavenging





# So How Do We Make a Game?





# Minimal Controls, Maximum Power



Reload this page | ARISEditor | arisgames.org/alphaeditor/

Game Objects

- Back to Game List
- Game Settings
- Quests

- Joey
- The Library
- Burget in a Box
- A mysterious box
- Congradulations

Add Object | Add Folder

Map | Satellite | Hybrid | Terrain

Map Controls | Location Search: | Go

Map data ©2011 Europa Technologies, Google | Terms of Use

The screenshot displays the ARISEditor web application interface. On the left, a sidebar titled 'Game Objects' contains a 'Back to Game List' button, a 'Game Settings' button (highlighted with a blue border), and a 'Quests' button. Below these are five game objects: 'Joey' (house icon), 'The Library' (book icon), 'Burget in a Box' (box icon), 'A mysterious box' (yellow folder icon), and 'Congradulations' (yellow folder icon). At the bottom of the sidebar are 'Add Object' and 'Add Folder' buttons. The main area shows a map of the United States with a red pin in Wisconsin. Map controls include a compass, a hand icon for panning, and a zoom slider. Map data is attributed to ©2011 Europa Technologies and Google. A 'Terms of Use' link is visible at the bottom right of the map area.



# Portable Soccer Field



Game Objects

Back to Game List

Game Settings

Quests

Coach and Announcer

Items

- Team Red Goal
- Team Red Goal 2
- Team Red Territory Near Goal
- Team Red Territory Near Goal 2
- Middle of Team Red Territory
- Middle of Team Red Territory 2
- Middle of Team Red Territory 3
- Team Red Near Midfield
- Team Red Near Midfield 2
- Team Red Near Midfield 3
- Midfield
- Midfield 2
- Midfield 3
- Midfield 4
- Midfield 5
- Midfield 6
- Blue Territory 45 yds from Goal
- Blue Territory 45 yds from Goal 2
- Blue Territory 45 yds from Goal 3
- Blue Territory 45 yds from Goal 4
- Blue Territory 45 yds from Goal 5
- Blue Territory 30 yds from Goal
- Blue Territory 30 yds from Goal 2
- Blue Territory 30 yds from Goal 3
- Blue Territory 30 yds from Goal 4
- Blue Territory 30 yds from Goal 5
- Blue Territory 15 yds from Goal
- Blue Territory 15 yds from Goal 2
- Blue Territory 15 yds from Goal 3
- Blue Territory 15 yds from Goal 4
- Blue Territory 15 yds from Goal 5
- Team Blue Goal
- Team Blue Goal 2

Add Object Add Folder

Map Controls Location Search: Go

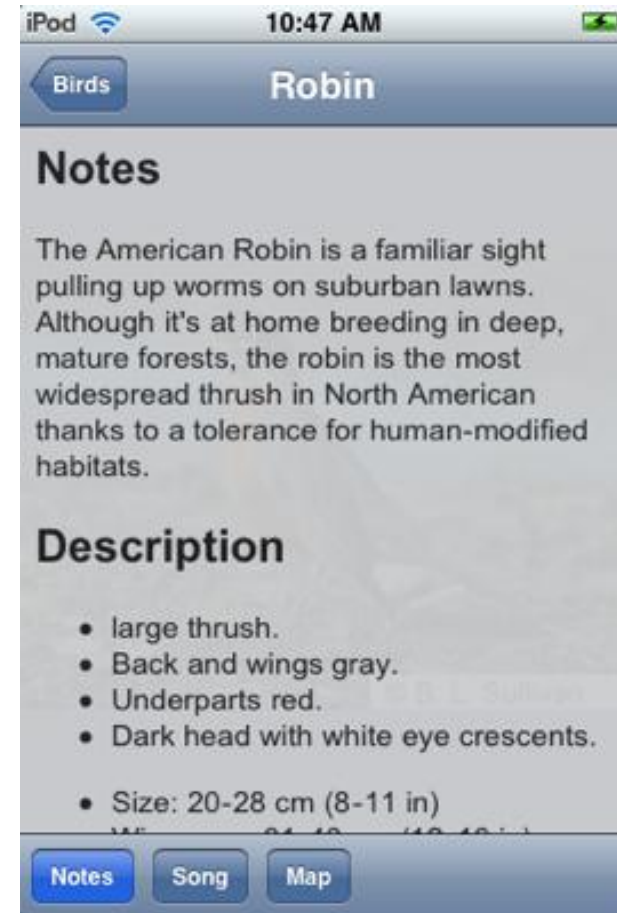
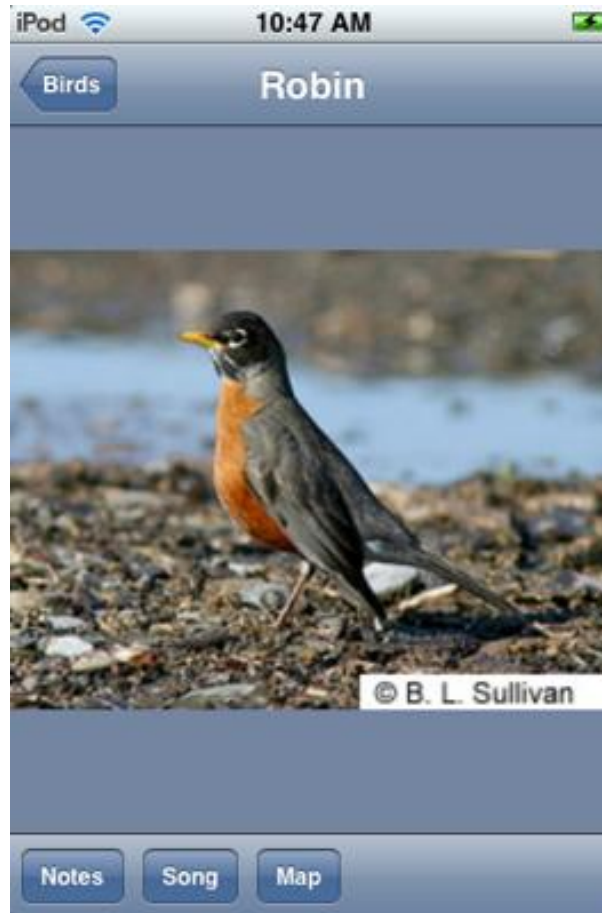




# So What Are Some of the Advanced Projects Using ARIS?



# Prototype 1:

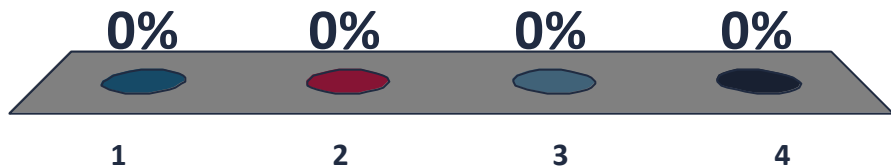




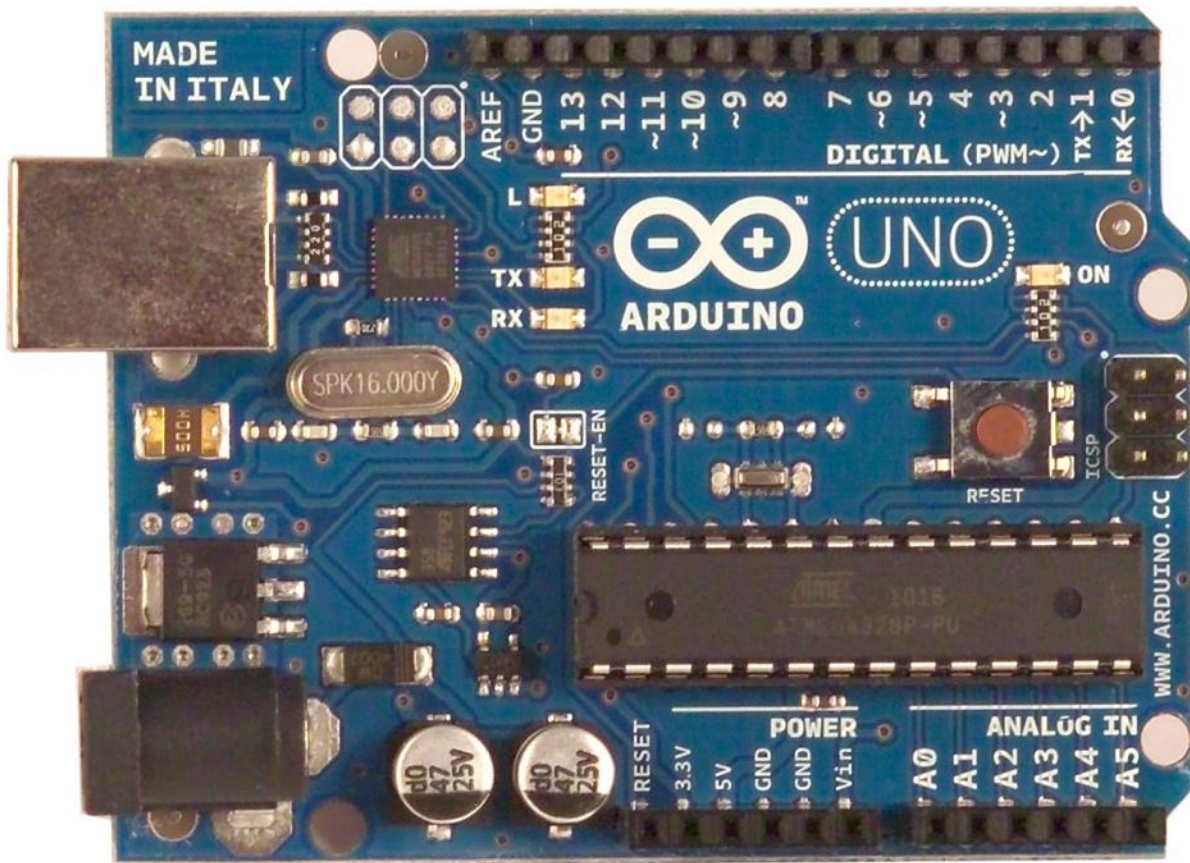
# What Use Did the Previous Application Have?



1. Identify bird species by their song alone
2. Become the mayor of a bird species
3. Help scientists track birds based on location
4. All of the above



# Prototype 2:

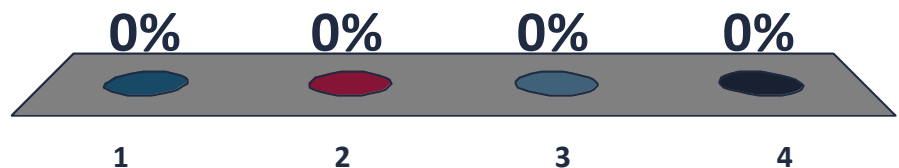




# How Can That Chip Integrate with ARIS?



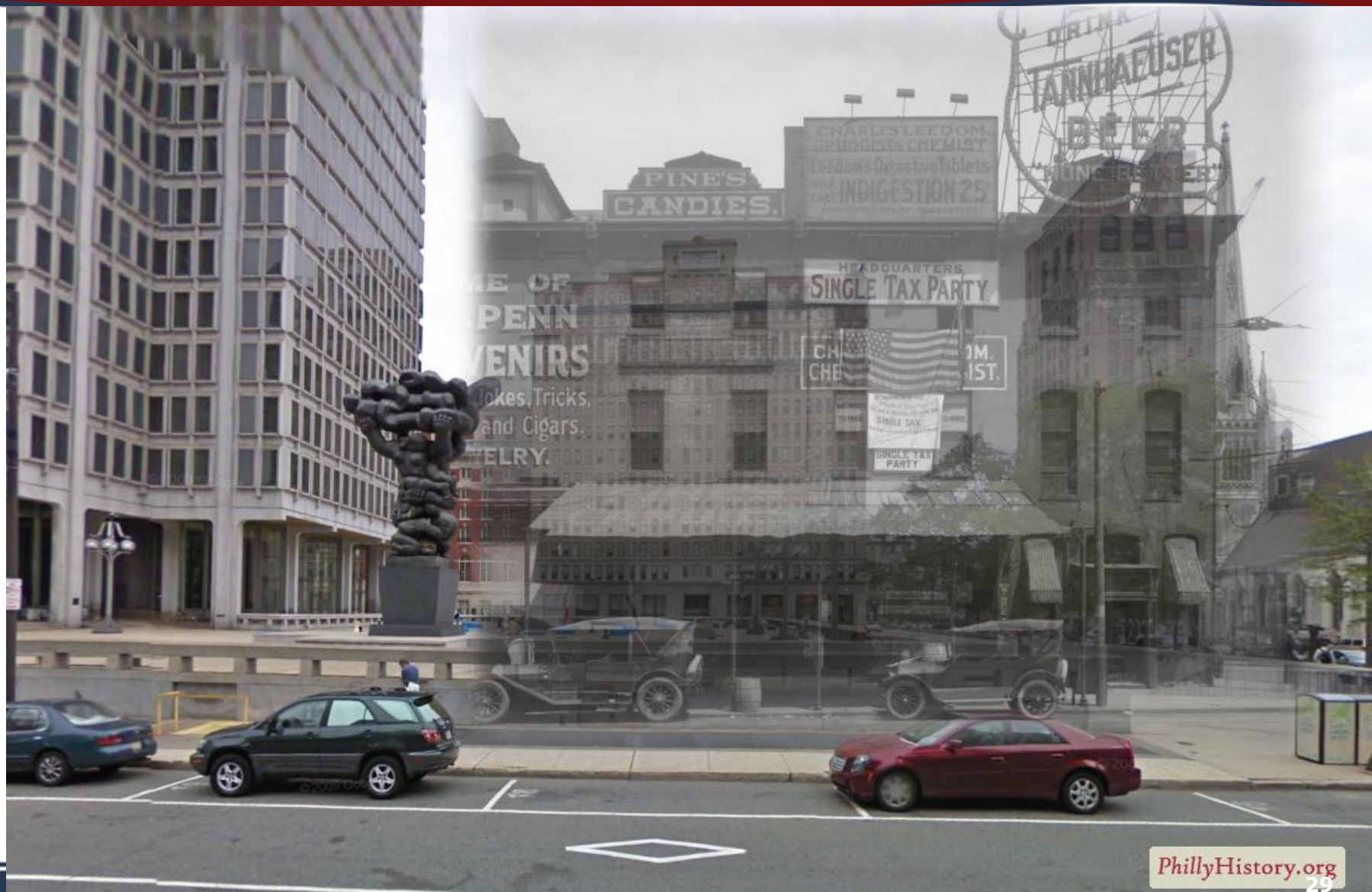
1. Tracks your vital signs and other biological functions
2. Transfers tracked data seamlessly to any device
3. Goes in your phone to turn on your blender
4. Makes any device GPS ready







# Prototype 3:

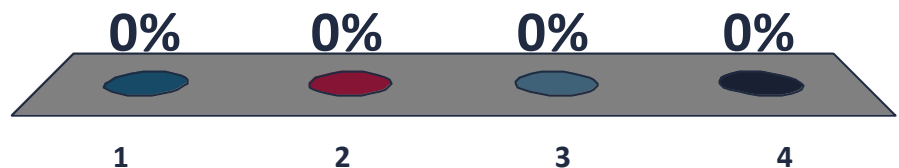




# What Exactly is That Black and White Area?



1. A panoramic photo piece overlaid on a specific GPS location
2. A disruption in the space-time continuum
3. A hidden layer that is revealed when you snap a photo in ARIS
4. A typical search result in Google maps





# Prototype 4:

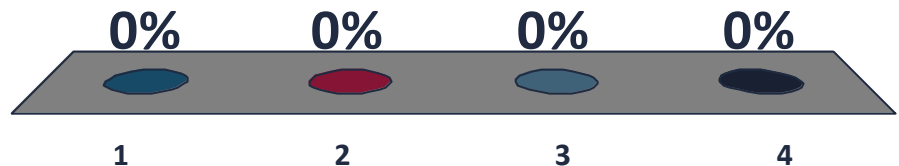




# So What Exactly Are We Doing?



1. Letting our avatar take a picture of a bridge so we don't have to
2. Seeing if this is the bridge that was blasting me on Twitter last night
3. Our geometry homework
4. Extracting GPS coordinates from a digital image







# Who Can Use ARIS?







# Everyone Creates, Everyone Wins



- Studies show we retain 90% of what we teach
- Everyone can produce media
- Other strong social dynamics at work
  - “social contracts”



# Learning



- Learn the content BY creating content
- Explore fringe answers
- Tap into competition
- Both designing the game and playing the game can be very social
- Not designing the game to keep it



# Is ARIS the future?



- Maybe, but here is what is valuable in the design:
- Low barriers to entry – open source, easy-to-use, more participation, more social sharing
- Build on a platform that is there (iPhone), but also what is yet to come (3G/4G network)



# Participation



- Would love to have someone build it out on the Android platform as it is only on iPhone/iPad currently
- Want a feature? Build it or supply resources to have it built.





# Thank you!



- Andy Johnson  
andy.johnson.ctr@adlnet.gov
- ARIS  
<http://arisgames.org/>